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(54) MANUFACTURE OF SOLID-STATE IMAGE PICKUP DEVICE

(57)Abstract:

PURPOSE: To project the whole beams transmitting each beam-condensing structure to a photodiode by joining the beam-condensing structures and a solid-state image pickup element through beams and a heat-reactive resin, applying heat after the projection of beams and curing the resin.

CONSTITUTION: Incident beams 19 vertically projected from the transmitting glass substrate 11 side are refracted on the interface between a protective film 14 and a resin layer 15, reach a corresponding diode 16, and are reflected partially. The layer 15 begins to cure at that time while a refractive index also begins to change. The projection of beams is stopped, and the whole is heated temporarily. Regions 17 having a refractive index n_1 and regions having a refractive index n_2 are formed in the layer 15 by the heating. When the diaphragm of a lens is changed extending over $F1.1 \square F1.4$ and beams are projected to a solid-state image pickup element manufactured in this manner, the regions 17 function as optical waveguides, thus resulting in a projection to the diodes 16 of the whole incident beams.

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